

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): A.H. HOCHBERG et al. Examiner: Stephen C. Elmore
Serial No. 10/658,487 Group Art Unit: 2185
Filed September 8, 2003 Docket No.: SJO920030060US1
TITLE: METHOD, SYSTEM, AND PROGRAM FOR RETENTION
MANAGEMENT AND PROTECTION OF STORED OBJECTS

CERTIFICATE UNDER 37 CFR 1.8:

I hereby certify that this correspondence is being transmitted through the USPTO EFS-Web system over the Internet to Examiner Stephen C. Elmore of the U.S. Patent and Trademark Office on April 24, 2006.

/David Victor/
David W. Victor

AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Amendment is submitted in response to a first non-final office action in the above case dated January 24, 2006 in which the Examiner allowed claims 1-28, objected to the Specification, and rejected claims 29-42 as directed to non-statutory subject matter (35 U.S.C. §101), and for not being supported by a substantial utility that would enable one skilled in the art to use the claimed invention (35 U.S.C. §112, par. 1). Applicants traverse the objections to the Specification and have amended the independent article of manufacture claims 29 and 36 to overcome the Sections 101 and 112 rejections. Applicants submit that all pending claims 1-42 are now in condition for allowance for the reasons discussed herein.

Amendments to the Claims are reflected in the listing of claims which begins on page 2.
Remarks/Arguments begin on page 12.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Original) A method for managing retention of stored objects, comprising:
receiving a modification request with respect to a stored object;
determining whether a retention protection mechanism is set;
processing a storage policy associated with the stored object to determine whether the stored object has expired according to the storage policy in response to determining that the retention protection mechanism is set; and
allowing the modification request to proceed in response to determining that the stored object has expired.

2. (Original) The method of claim 1, further comprising:
allowing the modification request to proceed if the retention protection mechanism is not set; and
blocking the modification request in response to determining that the retention protection mechanism is set and the stored object has not expired.

3. (Original) The method of claim 1, wherein the storage policy specifies a retention period, wherein determining whether the stored object has expired comprises determining whether a difference between a current time and a retention period start exceeds the retention period.

4. (Original) The method of claim 3, further comprising:
determining whether the modification request is to increase the retention period specified for the storage policy in response to determining that the retention protection is set and the stored object has not expired;
allowing the modification request to increase the retention period if the modification request is determined to increase the retention period; and

blocking the modification request if the modification request is determined to not increase the retention period.

5. (Original) The method of claim 3, wherein the storage policy may comprise an event based retention policy, wherein for the event based retention policy, the retention period start begins in response to receiving an event signal, and wherein the object having an event based retention policy does not expire until after the event signal is received and the difference between the current time and the retention period start exceeds the retention period.

6. (Original) The method of claim 1, wherein the modification request comprises a request to delete the object, further comprising:

determining whether a deletion hold is set for the stored object; and

blocking the deletion request if the deletion hold is set regardless of whether the stored object has expired.

7. (Original) The method of claim 6, further comprising:

receiving indication that the deletion hold for one stored object is released, wherein deletion requests directed to the stored object after the deletion hold is released may proceed if the stored object has expired.

8. (Original) A method for storing objects, comprising:

receiving an object to store and a storage policy associated with the object, wherein the storage policy specifies a retention period ;

generating object information for the received object indicating a storage policy including a retention period, wherein the stored object expires when a difference between a current time and a retention period start exceeds the retention period; and

determining whether the storage policy comprises an event based retention policy, wherein for the event based retention policy, the retention period start commences in response to receiving an event signal, and wherein the object having an event based retention policy does not expire until after the event signal is received and the difference between the current time and the retention period start exceeds the retention period; and

setting status information to indicate that the event signal has not been received in response to determining that the storage policy comprises one event based retention policy.

9. (Original) The method of claim 8, further comprising:
determining that the retention period start commences for a specified object in response to determining that storage policy for the specified object does not comprise one event based retention policy or in response to receiving the event signal for the specified object.

10. (Original) The method of claim 9, further comprising:
generating expiration information indicating the retention period start as a current time and the retention period specified in the storage policy in response to determining that the retention period start commences.

11. (Original) The method of claim 10, further comprising:
processing the expiration information for each stored object to determine whether the current time exceeds the retention period start plus the retention period; and
deleting the object, object information, and expiration information for one object in response to determining that the current time exceeds the retention period start plus the retention period for the object.

12. (Original) The method of claim 8, wherein a minimum retention is associated with the event based retention policy, wherein the stored object is not expired if a time since the object was stored is less than the minimum retention period.

13. (Original) The method of claim 8, wherein one stored object cannot be removed if the stored object has not expired according to the storage policy.

14. (Original) The method of claim 8, wherein one event based retention policy has a retention period that expires upon receiving the event signal.

15. (Original) A system for managing retention of stored objects, comprising:
means for receiving a modification request with respect to a stored object;
means for determining whether a retention protection mechanism is set;
means for processing a storage policy associated with the stored object to determine whether the stored object has expired according to the storage policy in response to determining that the retention protection mechanism is set; and
means for allowing the modification request to proceed in response to determining that the stored object has expired.

16. (Original) The system of claim 15, further comprising:
means for allowing the modification request to proceed if the retention protection mechanism is not set; and
means for blocking the modification request in response to determining that the retention protection mechanism is set and the stored object has not expired.

17. (Original) The system of claim 15, wherein the storage policy specifies a retention period, wherein the means for determining whether the stored object has expired determines whether a difference between a current time and a retention period start exceeds the retention period.

18. (Original) The system of claim 17, further comprising:
means for determining whether the modification request is to increase the retention period specified for the storage policy in response to determining that the retention protection is set and the stored object has not expired;
means for allowing the modification request to increase the retention period if the modification request is determined to increase the retention period; and
means for blocking the modification request if the modification request is determined to not increase the retention period.

19. (Original) The system of claim 17, wherein the storage policy may comprise an event based retention policy, wherein for the event based retention policy, the retention period

start begins in response to receiving an event signal, and wherein the object having an event based retention policy does not expire until after the event signal is received and the difference between the current time and the retention period start exceeds the retention period.

20. (Original) The system of claim 15, wherein the modification request comprises a request to delete the object, further comprising:

means for determining whether a deletion hold is set for the stored object; and

means for blocking the deletion request if the deletion hold is set regardless of whether the stored object has expired.

21. (Original) The system of claim 20, further comprising:

means for receiving indication that the deletion hold for one stored object is released, wherein deletion requests directed to the stored object after the deletion hold is released may proceed if the stored object has expired.

22. (Original) A system for storing objects, comprising:

means for receiving an object to store and a storage policy associated with the object, wherein the storage policy specifies a retention period ;

means for generating object information for the received object indicating a storage policy including a retention period, wherein the stored object expires when a difference between a current time and a retention period start exceeds the retention period; and

means for determining whether the storage policy comprises an event based retention policy, wherein for the event based retention policy, the retention period start commences in response to receiving an event signal, and wherein the object having an event based retention policy does not expire until after the event signal is received and the difference between the current time and the retention period start exceeds the retention period; and

means for setting status information to indicate that the event signal has not been received in response to determining that the storage policy comprises one event based retention policy.

23. (Original) The system of claim 22, further comprising:

means for determining that the retention period start commences for a specified object in response to determining that storage policy for the specified object does not comprise one event based retention policy or in response to receiving the event signal for the specified object.

24. (Original) The system of claim 23, further comprising:

means for generating expiration information indicating the retention period start as a current time and the retention period specified in the storage policy in response to determining that the retention period start commences.

25. (Original) The system of claim 24, further comprising:

means for processing the expiration information for each stored object to determine whether the current time exceeds the retention period start plus the retention period; and

means for deleting the object, object information, and expiration information for one object in response to determining that the current time exceeds the retention period start plus the retention period for the object.

26. (Original) The system of claim 22, wherein a minimum retention is associated with the event based retention policy, wherein the stored object is not expired if a time since the object was stored is less than the minimum retention period.

27. (Original) The system of claim 22, wherein one stored object cannot be removed if the stored object has not expired according to the storage policy.

28. (Original) The system of claim 22, wherein one event based retention policy has a retention period that expires upon receiving the event signal.

29. (Currently Amended) An article of manufacture for managing retention of stored objects, wherein the article of manufacture comprises a computer readable storage medium including code that is executed to cause [[causes]] operations to be performed, the operations comprising:

receiving a modification request with respect to a stored object;
determining whether a retention protection mechanism is set;
processing a storage policy associated with the stored object to determine whether the stored object has expired according to the storage policy in response to determining that the retention protection mechanism is set; and
allowing the modification request to proceed in response to determining that the stored object has expired.

30. (Original) The article of manufacture of claim 29, wherein the operations further comprise:

allowing the modification request to proceed if the retention protection mechanism is not set; and

blocking the modification request in response to determining that the retention protection mechanism is set and the stored object has not expired.

31. (Original) The article of manufacture of claim 29, wherein the storage policy specifies a retention period, wherein determining whether the stored object has expired comprises determining whether a difference between a current time and a retention period start exceeds the retention period.

32. (Original) The article of manufacture of claim 31, wherein the operations further comprise:

determining whether the modification request is to increase the retention period specified for the storage policy in response to determining that the retention protection is set and the stored object has not expired;

allowing the modification request to increase the retention period if the modification request is determined to increase the retention period; and

blocking the modification request if the modification request is determined to not increase the retention period.

33. (Original) The article of manufacture of claim 31, wherein the storage policy may comprise an event based retention policy, wherein for the event based retention policy, the retention period start begins in response to receiving an event signal, and wherein the object having an event based retention policy does not expire until after the event signal is received and the difference between the current time and the retention period start exceeds the retention period.

34. (Original) The article of manufacture of claim 29, wherein the modification request comprises a request to delete the object, further comprising:

determining whether a deletion hold is set for the stored object; and
blocking the deletion request if the deletion hold is set regardless of whether the stored object has expired.

35. (Original) The article of manufacture of claim 34, wherein the operations further comprise:

receiving indication that the deletion hold for one stored object is released, wherein deletion requests directed to the stored object after the deletion hold is released may proceed if the stored object has expired.

36. (Currently Amended) An article of manufacture for storing objects, wherein the article of manufacture comprises a computer readable storage medium including code that is executed to cause [[causes]] operations to be performed, the operations comprising:

receiving an object to store and a storage policy associated with the object, wherein the storage policy specifies a retention period ;

generating object information for the received object indicating a storage policy including a retention period, wherein the stored object expires when a difference between a current time and a retention period start exceeds the retention period; and

determining whether the storage policy comprises an event based retention policy, wherein for the event based retention policy, the retention period start commences in response to receiving an event signal, and wherein the object having an event based retention policy does not

expire until after the event signal is received and the difference between the current time and the retention period start exceeds the retention period; and

setting status information to indicate that the event signal has not been received in response to determining that the storage policy comprises one event based retention policy.

37. (Original) The article of manufacture of claim 36, wherein the operations further comprise:

determining that the retention period start commences for a specified object in response to determining that storage policy for the specified object does not comprise one event based retention policy or in response to receiving the event signal for the specified object.

38. (Original) The article of manufacture of claim 37, wherein the operations further comprise:

generating expiration information indicating the retention period start as a current time and the retention period specified in the storage policy in response to determining that the retention period start commences.

39. (Original) The article of manufacture of claim 38, wherein the operations further comprise:

processing the expiration information for each stored object to determine whether the current time exceeds the retention period start plus the retention period; and

deleting the object, object information, and expiration information for one object in response to determining that the current time exceeds the retention period start plus the retention period for the object.

40. (Original) The article of manufacture of claim 36, wherein a minimum retention is associated with the event based retention policy, wherein the stored object is not expired if a time since the object was stored is less than the minimum retention period.

41. (Original) The article of manufacture of claim 36, wherein one stored object cannot be removed if the stored object has not expired according to the storage policy.

42. (Original) The article of manufacture of claim 36, wherein one event based retention policy has a retention period that expires upon receiving the event signal.

REMARKS/ARGUMENTS

The Examiner allowed claims 1-28.

The Examiner rejected claims 29-42 for failing to comply with the statutory subject matter requirement under 35 U.S.C. §101 (“Section 101”) and under 35 U.S.C. §112, par. 1 (Section 112”). Applicants amended independent article of manufacture claims 29 and 36 to clarify that the article of manufacture comprises a “computer readable storage medium including code that is executed to perform” the claimed operations. The Specification discloses this added requirement in para. [0032], pgs. 13-14 as follows:

The term “article of manufacture” as used herein refers to code or logic implemented in hardware logic (e.g., an integrated circuit chip, Programmable Gate Array (PGA), Application Specific Integrated Circuit (ASIC), etc.) or a computer readable medium, such as magnetic storage medium (e.g., hard disk drives, floppy disks,, tape, etc.), optical storage (CD-ROMs, optical disks, etc.), volatile and non-volatile memory devices (e.g., EEPROMs, ROMs, PROMs, RAMs, DRAMs, SRAMs, firmware, programmable logic, etc.). Code in the computer readable medium is accessed and executed by a processor.

Applicants submit for the reasons discussed below that these amendments overcome the Sections 101 and 112 rejections.

1. Applicants Traverse the Objections to the Specification

The Examiner objected to the Specification on Section 101 grounds (35 U.S.C. §101). However, Applicants believe that the Examiner’s objections are misdirected with respect to the Specification. Applicants submit that the amendments to the claims overcome the grounds for the Section 101 rejection.

The Examiner objected to a sentence in the Specification that says the archival system described herein may be implemented as software, firmware or any combination thereof. The Examiner contends that an article of manufacture cannot be defined to be software without a suitable recording medium because this is not permissible claimed subject matter under Section 101. (Office Action, pg. 2)

Applicants traverse this objection because the finding is not applicable to the Specification, but to the claims. Applicants submit that it is entirely technically correct for the Specification to note that the described archival system may be implemented in “software, firmware or any combination thereof.” Notwithstanding, Applicants have amended the claims to

clarify that the article of manufacture comprises a “computer readable storage medium including code that is executed to perform” certain claimed operations.

The Examiner further objected to the Specification for reciting that a transmission medium “implements” code. (Office Action, pg. 2-4). Applicants traverse this finding. According to the Webster Dictionary, the term “implements” means “to put into practical effect”. Merriam Webster’s Collegiate Dictionary (10th Ed., 1994). Applicants submit that in accordance with this common definition of “implements”, the transmission medium “puts into practical effect” the code when transmitting the code because it is a well known technical fact that code transmitted in a transmission medium is physically encoded in the transmission signal, or put into practical effect through such encoding. This usage of the term “implements” is clear when the full sentence is considered -- “code in which the preferred embodiments are implemented may further be accessible through a transmission medium or from a file server over a network.”

Applicants submit that those skilled in the art would understand that a transmission medium “implementing code” that is accessible through the transmission medium means that the transmission medium, i.e., network transmission line, signals, etc., includes a physical representation (i.e., encoding) or implementation of the program to be transmitted from one location to another.

The Examiner further found that a transmission media is not a tangible media and cited the State Street case to the effect that the claimed invention as a whole must accomplish a practical application and that a transmission media is not a tangible, structure change. (Office Action, pgs. 3-4) Applicants submit that this reasoning is not applicable with respect to the Specification, and that the cited sections of State Street concern the claimed subject matter, not objections to the Specification. The Specification is merely stating the well known technical fact that a program can be implemented or encoded in a “transmission medium, such as a network transmission line, wireless transmission media, signals propagating through space”, etc.

Notwithstanding, Applicants believe the amendment to the claims address the Examiner’s concerns by limiting the claimed “article of manufacture” to a “computer readable storage medium including code that is executed to perform” the claimed operations. Applicants submit that a “computer readable storage medium” including code is a “tangible medium” as the Examiner understands and uses that term.

For all the above reasons, Applicants respectfully submit that the objections to the Specification should be withdrawn.

2. Claims 29-42 Comply with Sections 101 and 112, par. 1

The Examiner rejected claims 29-42 under Section 101 on the grounds that the claimed article of manufacture could cover transmission media, which the Examiner does not believe to be patentable subject matter. (Office Action, pg. 5) Although Applicants disagree and traverse the legal basis for such findings, to expedite prosecution, Applicants have amended the independent article of manufacture claims 29 and 36 to clarify that the article of manufacture comprises a “computer readable storage medium including code that is executed to perform” the claimed operations.

Applicants submit that this amendment overcomes the Section 101 rejection and that such rejection should be withdrawn.

The Examiner also rejected claims 29-42 under 35 U.S.C. §112, par. 1 (Section 112) fn the grounds that the article of manufacture as claimed may cover transmission media and that the code in a transmission media “is not capable of being executed to cause any operations to be performed, since no code is executed while transmitted.” (Office Action, pg. 6) Applicants submit that the amendment to claims 29 and 36 clarifying that the article of manufacture comprises a “computer readable storage medium” overcomes this rejection and that such rejection should be withdrawn.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-42 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0466.

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Amdt. dated April 24, 2006
Reply to Office action of Jan. 24, 2006

Serial No. 10/658,487
Docket No. SJO920030060US1
Firm No. 0037.0055

The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

Dated: April 24, 2006

By: /David Victor/

David W. Victor
Registration No. 39,867

Please direct all correspondences to:

David Victor
Konrad Raynes & Victor, LLP
315 South Beverly Drive, Ste. 210
Beverly Hills, CA 90212
Tel: 310-553-7977
Fax: 310-556-7984